

# Area of Operation **XIII** - Task **D**

# Emergency Descent

## Content

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### Key References:

- Airplane Flying Handbook
- POH/AFM

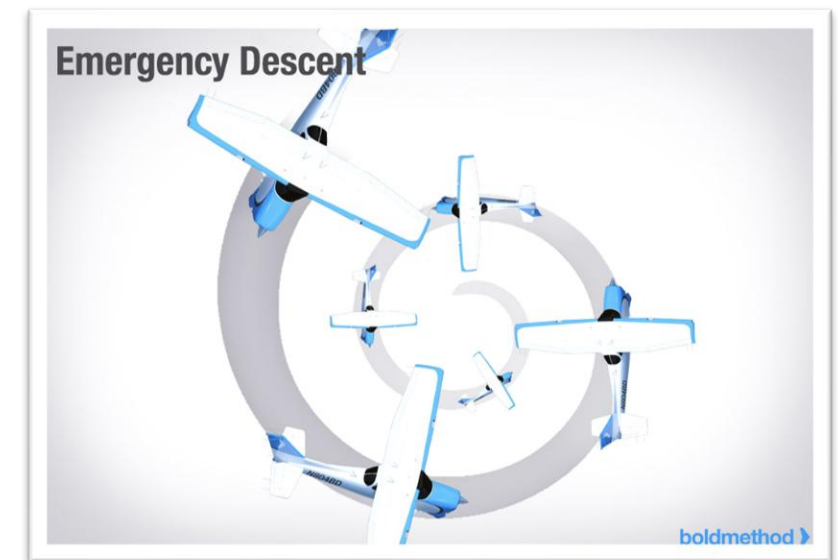
# 1. Introduction

- **What:** Maneuver for descending as rapidly as possible to a lower altitude, or to an emergency landing
- **Why:** Pilot needs to know how to safely perform an immediate and rapid descent in a survival situation

- **Basic:**

- Objective: Descend as soon and as rapidly as possible **within the structural limitations of the airplane**
- Situations that may necessitate an emergency descent
  - **Fire**
  - Smoke
  - **Loss of cabin pressurization**
  - Medical or injury
  - Escape from possible midair collision
- Do not confuse with “Emergency Approach & Landing” or “Steep Spiral”

- ➡ **Standard (ACS):**
- Bank angle  $30^{\circ}$  to  $45^{\circ}$  (maintain positive load factor)
  - Airspeed **+0/-10 kts**, Altitude at level off **±100ft**



## 2. The Maneuver

1. In general, the maneuver will be simulated as an engine fire → **pull the throttle** + **proper checklist first**

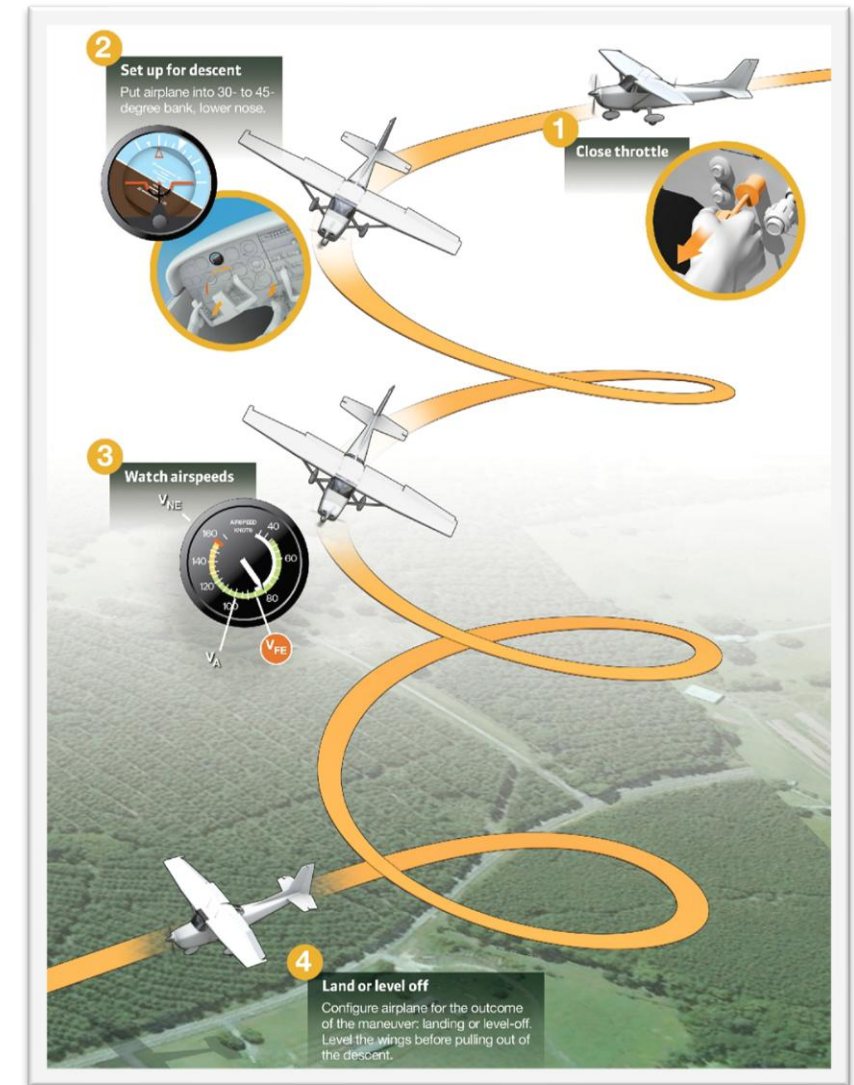
### 2. Entry:

- Reduce power (if not done yet)
- Bank turn (30-45°) and pitch down to accelerate proper airspeed

### 3. Spiral: *ideally towards a suitable landing area*

- Bank is needed to:
  - Maintain a **Positive load factor**
  - **Lose altitude quickly**
  - In case of engine fire, **get the smoke out of the way**
    - *Manage bank (+coordination) → requires close attention*
- High airspeed is needed because:
  - Get **quickly to the ground**
  - **Extinguish the fire** (in case of engine fire)
    - *Watch airspeed → Control with pitch and do not exceed Vne*
- Continuously scan for traffic + call ATC for help

4. **Level off smoothly w/ wings level** → **Do not overstress the airframe**



# 3. Execution

## Performing the maneuver in a C172S

1. Perform two 90° clearing turns
2. Select altitude where recovery can occur above 1500ft AGL (although DPE will take you by surprise)
3. **Clean** Configuration
4. Execute “Engine Fire” checklist *(if engine is on simulated fire)*
5. Descent turn (bank **30-45°**) while **clearing for traffic**
6. Airspeed **100 kts** (or one needed to pull off the fire, below Vne) – per POH
  - *Recommendation: Pick **110kts** as max, **100kts** as minimum when simulating*
7. Airspeed (**+0/-10 kts**), Level off altitude **±100ft**
8. Notify ATC during descent
9. Once simulated fire is out, execute “Forced Landing w/o Power” checklist
10. Recover when instructed – remember to level off smoothly and with wings level (to not overstress the airframe)

## 4. Common Errors

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1. The consequences of failing to identify reason for executing an emergency descent
2. Improper use of the checklist to verify accomplishment of procedures for initiating the emergency descent
3. Improper use of clearing procedures for initiating the emergency descent
4. Improper procedures for recovering from an emergency descent

# Questions?

